

WHAT IS CLAIMED IS:

1. A printing cylinder for accepting an axially-removable printing sleeve comprising:

5 a cylinder body having an outer surface, the outer surface having at least one hole; and

a supply line in the cylinder body for supplying fluid to the at least one hole, the supply line having at least one flow restrictor designed to alter fluid flow as a function of the at least one hole being covered by an axially-removable printing sleeve.

2. The printing cylinder as recited in claim 1 wherein the fluid is air.

3. The printing cylinder as recited in claim 1 wherein the flow restrictor creates vortices when the at least one hole is uncovered.

4. The printing cylinder as recited in claim 1 wherein the outer surface further has a plurality of other holes at a work side end of the printing cylinder, the at least one hole located axially between the other holes and a gear side end of the printing cylinder.

5. The printing cylinder as recited in claim 4 wherein the plurality of other holes include another supply line having at least one other flow restrictor for the other holes.

6. The printing cylinder as recited in claim 1 wherein the flow restrictor includes a plurality of opposing fins, tips of opposing fins being spaced so as to form a free-flow channel.

7. The printing cylinder as recited in claim 1 wherein the at least one hole is spaced closer to a gear side of the printing cylinder.

8. The printing cylinder as recited in claim 1 wherein the at least one hole includes a plurality of holes and the at least one flow restrictor includes a flow restrictor for each hole.
- 5 9. The printing cylinder as recited in claim 8 wherein the outer surface has a second set of holes for a second axially-removable printing sleeve, the second set of holes having second flow restrictors.
- 10 10. The printing cylinder as recited in claim 1 wherein the printing cylinder is a blanket cylinder.
11. A printing press comprising:
a first printing cylinder having at least one external hole and a first flow restrictor;
15 a first axially removable printing sleeve fitting over the first printing cylinder;
an additional printing cylinder having at least one second external hole and a second flow restrictor;
an additional axially removable printing sleeve fitting over the additional printing cylinder; and
20 a fluid supply source for supplying pressure to the first and second external holes;
the first flow restrictor restricting flow through the external hole as a function of an axial position of the first printing sleeve with respect to the first
25 printing cylinder and the second flow restrictor restricting flow through the second external hole as a function of an other axial position of the additional printing sleeve with respect to the additional printing cylinder.
12. The printing press as recited in claim 11 wherein no valves are located
30 between the first and second external holes.

13. The printing press as recited in claim 11 wherein the first printing cylinder is a blanket cylinder.
14. The printing press as recited in claim 11 wherein the printing press is an
5 offset lithographic printing press.
15. A printing press comprising:
a printing cylinder having an outer surface with at least one first external
hole with a first flow restrictor, and at least one second external hole with a
10 second flow restrictor,
a first axially removable printing sleeve fitting over the printing cylinder
so as to cover the at least one first external hole; and
a second axially removable printing sleeve fitting over the printing
cylinder so as to cover the at least one second external hole.
15
16. A method for axially removing a printing sleeve over a printing cylinder
comprising the steps of:
applying fluid pressure to an inside of a printing sleeve located on a
printing cylinder through holes at a work side end of the printing cylinder
20 and through other holes between the holes at the work side end and a gear
side end of the printing cylinder;
sliding the printing sleeve in a direction of the work side end of the
printing cylinder; and
automatically restricting flow through the other holes when the
25 printing sleeve no longer is located over the other holes.
17. The method as recited in claim 16 wherein the automatically restricting step
includes forming vortices in a supply line for the other holes.
- 30 18. The method as recited in claim 16 wherein the printing sleeve is a blanket.

19. The method as recited in claim 16 further comprising sliding an additional printing sleeve in the direction of the work side end.

09767108 012201